

## **RAW SEQUENCE LISTING**

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Application Serial Number: 10/537, 746 A  
Source: PCT  
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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/537,746A

DATE: 02/02/2006

TIME: 11:45:52

Input Set : A:\Sequence.ST25.txt

Output Set: N:\CRF4\02022006\J537746A.raw

3 <110> APPLICANT: De Maria, Leonardo  
 4 Svendsen, Allan  
 5 Borchert, Torben Vedel  
 6 Christensen, Lars Lehmann Hylling  
 7 Larsen, Sine  
 8 Ryttergaard, Carsten  
 10 <120> TITLE OF INVENTION: Galactanase Variants  
 12 <130> FILE REFERENCE: 10319.204-US  
 C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/537,746A  
 C--> 14 <141> CURRENT FILING DATE: 2005-06-06  
 14 <160> NUMBER OF SEQ ID NOS: 9  
 16 <170> SOFTWARE: PatentIn version 3.3  
 18 <210> SEQ ID NO: 1  
 19 <211> LENGTH: 332  
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 25 <221> NAME/KEY: mat\_peptide  
 26 <222> LOCATION: (1)..()  
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 35 20 25 30  
 38 Glu Asn Ile Leu Ala Ala Asn Gly Val Asn Thr Val Arg Gln Arg Val  
 39 35 40 45  
 42 Trp Val Asn Pro Ala Asp Gly Asn Tyr Asn Leu Asp Tyr Asn Ile Ala  
 43 50 55 60  
 46 Ile Ala Lys Arg Ala Lys Ala Ala Gly Leu Gly Val Tyr Ile Asp Phe  
 47 65 70 75 80  
 50 His Tyr Ser Asp Thr Trp Ala Asp Pro Ala His Gln Thr Met Pro Ala  
 51 85 90 95  
 54 Gly Trp Pro Ser Asp Ile Asp Asn Leu Ser Trp Lys Leu Tyr Asn Tyr  
 55 100 105 110  
 58 Thr Leu Asp Ala Ala Asn Lys Leu Gln Asn Ala Gly Ile Gln Pro Thr  
 59 115 120 125  
 62 Ile Val Ser Ile Gly Asn Glu Ile Arg Ala Gly Leu Leu Trp Pro Thr  
 63 130 135 140  
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 67 145 150 155 160  
 70 Ala Trp Gly Ile Lys Asp Ser Ser Leu Ser Pro Lys Pro Lys Ile Met  
 71 165 170 175  
 74 Ile His Leu Asp Asn Gly Trp Asp Trp Gly Thr Gln Asn Trp Trp Tyr

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75 180 185 190  
 78 Thr Asn Val Leu Lys Gln Gly Thr Leu Glu Leu Ser Asp Phe Asp Met  
 79 195 200 205  
 82 Met Gly Val Ser Phe Tyr Pro Phe Tyr Ser Ser Ser Ala Thr Leu Ser  
 83 210 215 220  
 86 Ala Leu Lys Ser Ser Leu Asp Asn Met Ala Lys Thr Trp Asn Lys Glu  
 87 225 230 235 240  
 90 Ile Ala Val Val Glu Thr Asn Trp Pro Ile Ser Cys Pro Asn Pro Arg  
 91 245 250 255  
 94 Tyr Ser Phe Pro Ser Asp Val Lys Asn Ile Pro Phe Ser Pro Glu Gly  
 95 260 265 270  
 98 Gln Thr Thr Phe Ile Thr Asn Val Ala Asn Ile Val Ser Ser Val Ser  
 99 275 280 285  
 102 Arg Gly Val Gly Leu Phe Tyr Trp Glu Pro Ala Trp Ile His Asn Ala  
 103 290 295 300  
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 130 Arg Ala Gly Val Arg Tyr Lys Asn Val Asn Gly Gln Glu Lys Pro Leu  
 131 20 25 30  
 134 Glu Tyr Ile Leu Ala Glu Asn Gly Val Asn Met Val Arg Gln Arg Val  
 135 35 40 45  
 138 Trp Val Asn Pro Trp Asp Gly Asn Tyr Asn Leu Asp Tyr Asn Ile Gln  
 139 50 55 60  
 142 Leu Ala Arg Arg Ala Lys Ala Ala Gly Leu Gly Leu Tyr Ile Asn Phe  
 143 65 70 75 80  
 146 His Tyr Ser Asp Thr Trp Ala Asp Pro Ala His Gln Thr Thr Pro Ala  
 147 85 90 95  
 150 Gly Trp Pro Ser Asp Ile Asn Asn Leu Ala Trp Lys Leu Tyr Asn Tyr  
 151 100 105 110  
 154 Thr Leu Asp Ser Met Asn Arg Phe Ala Asp Ala Gly Ile Gln Val Asp  
 155 115 120 125  
 158 Ile Val Ser Ile Gly Asn Glu Ile Thr Gln Gly Leu Leu Trp Pro Leu  
 159 130 135 140  
 162 Gly Lys Thr Asn Asn Trp Tyr Asn Ile Ala Arg Leu Leu His Ser Ala  
 163 145 150 155 160  
 166 Ala Trp Gly Val Lys Asp Ser Arg Leu Asn Pro Lys Pro Lys Ile Met  
 167 165 170 175

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170 Val His Leu Asp Asn Gly Trp Asn Trp Asp Thr Gln Asn Trp Trp Tyr  
171 180 185 190  
174 Thr Asn Val Leu Ser Gln Gly Pro Phe Glu Met Ser Asp Phe Asp Met  
175 195 200 205  
178 Met Gly Val Ser Phe Tyr Pro Phe Tyr Ser Ala Ser Ala Thr Leu Asp  
179 210 215 220  
182 Ser Leu Arg Arg Ser Leu Asn Asn Met Val Ser Arg Trp Gly Lys Glu  
183 225 230 235 240  
186 Val Ala Val Val Glu Thr Asn Trp Pro Thr Ser Cys Pro Tyr Pro Arg  
187 245 250 255  
190 Tyr Gln Phe Pro Ala Asp Val Arg Asn Val Pro Phe Ser Ala Ala Gly  
191 260 265 270  
194 Gln Thr Gln Tyr Ile Gln Ser Val Ala Asn Val Val Ser Ser Val Ser  
195 275 280 285  
198 Lys Gly Val Gly Leu Phe Tyr Trp Glu Pro Ala Trp Ile His Asn Ala  
199 290 295 300  
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206 Gln Ala Leu Ser Ser Leu Ser Val Phe His Arg Ile  
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217 <221> NAME/KEY: mat\_peptide  
218 <222> LOCATION: (1)..()  
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223 1 5 10 15  
226 Asp Glu Gly Tyr Ser Tyr Lys Asn Leu Asn Gly Gln Thr Gln Ala Leu  
227 20 25 30  
230 Glu Thr Ile Leu Ala Asp Ala Gly Ile Asn Ser Ile Arg Gln Arg Val  
231 35 40 45  
234 Trp Val Asn Pro Ser Asp Gly Ser Tyr Asp Leu Asp Tyr Asn Leu Glu  
235 50 55 60  
238 Leu Ala Lys Arg Val Lys Ala Ala Gly Met Ser Leu Tyr Leu Asp Leu  
239 65 70 75 80  
242 His Leu Ser Asp Thr Trp Ala Asp Pro Ser Asp Gln Thr Thr Pro Ser  
243 85 90 95  
246 Gly Trp Ser Thr Thr Asp Leu Gly Thr Leu Lys Trp Gln Leu Tyr Asn  
247 100 105 110  
250 Tyr Thr Leu Glu Val Cys Asn Thr Phe Ala Glu Asn Asp Ile Asp Ile  
251 115 120 125  
254 Glu Ile Ile Ser Ile Gly Asn Glu Ile Arg Ala Gly Leu Leu Trp Pro  
255 130 135 140  
258 Leu Gly Glu Thr Ser Ser Tyr Ser Asn Ile Gly Ala Leu Leu His Ser  
259 145 150 155 160  
262 Gly Ala Trp Gly Val Lys Asp Ser Asn Leu Ala Thr Thr Pro Lys Ile

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263 165 170 175  
 266 Met Ile His Leu Asp Asp Gly Trp Ser Trp Asp Gln Gln Asn Tyr Phe  
 267 180 185 190  
 270 Tyr Glu Thr Val Leu Ala Thr Gly Glu Leu Leu Ser Thr Asp Phe Asp  
 271 195 200 205  
 274 Tyr Phe Gly Val Ser Tyr Tyr Pro Phe Tyr Ser Ala Ser Ala Thr Leu  
 275 210 215 220  
 278 Ala Ser Leu Lys Thr Ser Leu Ala Asn Leu Gln Ser Thr Tyr Asp Lys  
 279 225 230 235 240  
 282 Pro Val Val Val Glu Thr Asn Trp Pro Val Ser Cys Pro Asn Pro  
 283 245 250 255  
 286 Ala Tyr Ala Phe Pro Ser Asp Leu Ser Ser Ile Pro Phe Ser Val Ala  
 287 260 265 270  
 290 Gly Gln Gln Glu Phe Leu Glu Lys Leu Ala Ala Val Val Glu Ala Thr  
 291 275 280 285  
 294 Thr Asp Gly Leu Gly Val Tyr Tyr Trp Glu Pro Ala Trp Ile Gly Asn  
 295 290 295 300  
 298 Ala Gly Leu Gly Ser Ser Cys Ala Asp Asn Leu Met Val Asp Tyr Thr  
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 308 <212> TYPE: PRT  
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 314 1 5 10 15  
 317 Val Ser Gly Leu Arg Lys Asp Phe Ile Lys Gly Val Asp Val Ser Ser  
 318 20 25 30  
 321 Ile Ile Ala Leu Glu Glu Ser Gly Val Ala Phe Tyr Asn Glu Ser Gly  
 322 35 40 45  
 325 Lys Lys Gln Asp Ile Phe Asn Thr Leu Lys Glu Ala Gly Val Asn Tyr  
 326 50 55 60  
 329 Val Arg Val Arg Ile Trp Asn Asp Pro Tyr Asp Ala Asn Gly Asn Gly  
 330 65 70 75 80  
 333 Tyr Gly Gly Asn Asn Asp Leu Glu Lys Ala Ile Gln Ile Gly Lys  
 334 85 90 95  
 337 Arg Ala Asn Ala Asn Gly Met Lys Leu Leu Ala Asp Phe His Tyr Ser  
 338 100 105 110  
 341 Asp Phe Trp Ala Asp Pro Ala Lys Gln Lys Ala Pro Lys Ala Trp Ala  
 342 115 120 125  
 345 Asn Leu Asn Phe Glu Asp Lys Lys Thr Ala Leu Tyr Gln Tyr Thr Lys  
 346 130 135 140  
 349 Gln Ser Leu Lys Ala Met Lys Ala Ala Gly Ile Asp Ile Gly Met Val  
 350 145 150 155 160  
 353 Gln Val Gly Asn Glu Thr Asn Gly Gly Leu Ala Gly Glu Thr Asp Trp  
 354 165 170 175  
 357 Ala Lys Met Ser Gln Leu Phe Asn Ala Gly Ser Gln Ala Val Arg Glu

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361	Thr Asp Ser Asn Ile Leu Val Ala Leu His Phe Thr Asn Pro Glu Thr			
362	195	200	205	
365	Ser Gly Arg Tyr Ala Trp Ile Ala Glu Thr Leu His Arg His His Val			
366	210	215	220	
369	Asp Tyr Asp Val Phe Ala Ser Ser Tyr Tyr Pro Phe Trp His Gly Thr			
370	225	230	235	240
373	Leu Lys Asn Leu Thr Ser Val Leu Thr Ser Val Ala Asp Thr Tyr Gly			
374	245	250	255	
377	Lys Lys Val Met Val Ala Glu Thr Ser Tyr Thr Tyr Thr Ala Glu Asp			
378	260	265	270	
381	Gly Asp Gly His Gly Asn Thr Ala Pro Lys Asn Gly Gln Thr Leu Asn			
382	275	280	285	
385	Asn Pro Val Thr Val Gln Gly Gln Ala Asn Ala Val Arg Asp Val Ile			
386	290	295	300	
389	Gln Ala Val Ser Asp Val Gly Glu Ala Gly Ile Gly Val Phe Tyr Trp			
390	305	310	315	320
393	Glu Pro Ala Trp Ile Pro Val Gly Pro Ala His Arg Leu Glu Lys Asn			
394	325	330	335	
397	Lys Ala Leu Trp Glu Thr Tyr Gly Ser Gly Trp Ala Thr Ser Tyr Ala			
398	340	345	350	
401	Ala Glu Tyr Asp Pro Glu Asp Ala Gly Lys Trp Phe Gly Gly Ser Ala			
402	355	360	365	
405	Val Asp Asn Gln Ala Leu Phe Asp Phe Lys Gly Arg Pro Leu Pro Ser			
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436	<223> OTHER INFORMATION: Synthetic			
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**VERIFICATION SUMMARY**

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Output Set: N:\CRF4\02022006\J537746A.raw

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L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date